APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

> A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
> THE MAILING DATE OF THIS COMMUNICATION.
> - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
>   after SIX (6) MONTHS from the mailing date of this communication.
> - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
> - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
> - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
> - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
>   earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *01 August 2003* .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-7 and 9-13* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *1-7* is/are allowed.

6) ☒ Claim(s) *9-13* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *11* .	6) ☐ Other:

DETAILED ACTION

Response to Amendment

1.   Applicant's arguments, in the response filed 1 August 2003, with respect to the

rejection(s) of claim(s) 9-12 under 35 USC § 103, have been fully considered and are persuasive.

Examiner agrees with Applicant that Tellado in view of Derks does not include every limitation

in claim 9, specifically the limitation that the threshold is selectable "to control the number of

samples violating the threshold". Therefore, the rejection has been withdrawn. However, upon

further consideration, a new ground(s) of rejection is made in view of Kotzin et al (USPN

5,796,722).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tellado et al

(USPN 6,424,681) in view of Kotzin et al (USPN 5,796,722).

4.   Regarding claim 13, Tellado discloses sampling the symbols to be transmitted of the

frame (col. 5, lines 15-24); comparing the magnitudes of the samples to a threshold to determine

if the samples violate the threshold (col. 6, lines 54-56); determining an upper limit correction

value for each symbol (col. 6, lines 50-58) where the upper limit of the correction value is the

value needed to negate the frame's peak to below the threshold; computing a peak reduction

kernel responsive to the upper limit correction values (col. 7, line 59-col. 8, line 47); responsive

to determining a sample magnitude does violate the predetermined threshold, applying the kernel

to the sample to reduce the peak (col. 7, line 59-col. 8, line 2 and col. 8, lines 43-47); and

transmitting the modified symbol (col. 2, lines 56-62). Tellado does not disclose that the

predetermined threshold is selectable to control the number of samples violating the threshold.

Kotzin teaches, in a multicarrier system, having a threshold selectable to control the number of

metrics violating the threshold in order to add flexibility to the system (col. 4, lines 54-64). It

would have been obvious to one of ordinary skill in the art at the time of the invention to have

the threshold be selectable to control the number of samples violating the threshold in order to

add flexibility to the system. Tellado also does not disclose that the upper limit correction value

is selectable to control an amount of signal to noise ratio deterioration because Tellado's method

is designed such that it does not affect the signal to noise ratio. However, Tellado recognizes that

the correction values will affect the signal to noise ratio unless measures are taken to design

around this problem (col. 2, lines 42-47). Kotzin teaches, in a multicarrier system, having a value

selectable to control the quality of a communication link in order to add flexibility to the system

(col. 4, lines 54-64). It would have been obvious to one of ordinary skill in the art at the time of

the invention to have the upper limit correction value be selectable to control an amount of signal

to noise ratio deterioration in order to add flexibility to the system.

5.   Regarding claim 9, referring to claim 13, Tellado in view of Kotzin discloses that

computing a peak reduction kernel responsive to the upper limit correction values comprises:

determining a phase component and an amplitude component of the upper limit correction values

and setting the phase component of the upper limit correction values to zero to ensure that the

peak reduction kernel has its peak value at the first sample of the frame (Tellado: col. 5, lines 47-

51) where the phase of the peak reduction frequencies which have their magnitude set by the

upper limit correction value (vector c) can be initialized to zero which effectively sets the phase

component of the upper limit correction value to zero since the upper limit correction value is the

value for the peak reduction frequency.

6.   Regarding claim 10, referring to claim 13, Tellado in view of Kotzin discloses that

applying the peak reduction kernel to the sample to reduce the peak of the sample comprises:

rotating the peak reduction kernel by an amount to ensure a peak of the peak reduction kernel

coincides with a peak of the frame (Tellado: col. 8, lines 45-47); determining whether the peak of

the peak reduction kernel has a sign equal to a sign of the peak of the frame (Tellado: col. 7, lines

54-61 and col. 8, lines 43-59 esp. lines 48-50); responsive to the signs of the peaks of the peak

reduction kernel and the frame being equal, multiplying the peak reduction kernel by minus one

(Tellado: col. 7, lines 54-61 and col. 8, lines 43-59 esp. lines 48-50); and adding the peak

reduction kernel to the samples to reduce the peak of the frame (Tellado: col. 7, lines 1-9 and

lines 54-61).

7.   Regarding claim 11, referring to claim 13, Tellado in view of Kotzin discloses applying

the peak kernel to the sample where the kernel has a magnitude scaled to the extent that the

frame's magnitude exceeds the threshold (Tellado: col. 8, lines 43-59 esp. lines 50-55).

8.   Regarding claim 12, referring to claim 11, Tellado in view of Kotzin discloses that the

magnitude of each kernel is equal to one and that the sum of the magnitudes of the kernels equals

the number of corrections values (Tellado: col. 8, lines 32-34 and col. 10, lines 21-22). Tellado

in view of Kotzin possibly does not expressly disclose that the scaling factors are chosen to

ensure a sum of the magnitudes of the kernels applied is equal to one. However, it is generally

considered to be within the ordinary skill in the art to adjust, vary, select, or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on applicant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1055); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA 1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Since Tellado in view of Kotzin discloses that the sum of the magnitudes of the kernels equals a number, any value for the sum would have been obvious absent a showing of criticality by Applicant.

Allowable Subject Matter

9.   Claims 1-7 are allowed. Regarding claim 1, the examiner did not find support in the prior art for having a net penalty function determined with a gradient being computed from this net penalty function.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6743 for regular communications and (703)308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman
Examiner
Art Unit 2665

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Daniel J. Ryman
August 8, 2003

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600